

ABSTRACT

An execution unit adapted to perform at least a portion of the Data Encryption Standard.

The execution unit includes a Left Half input; a Key input; and a Table input. The execution unit also includes a first group of transistors configured to receive the Table

5 input, perform a table look-up, and output data. The execution unit further includes a first exclusive-or operator having two inputs and an output. The first exclusive-or operator is configured to receive the Left Half input and the Key input. The execution unit also includes a second exclusive-or operator having two inputs and an output. The second exclusive-or operator is configured to receive the data output by the first group of

10 transistors and to receive the output of the first exclusive-or operator. The execution unit also includes a third exclusive-or operator having two inputs and an output. The third exclusive-or operator is configured to receive the Left Half input and the data output by the first group of transistors.

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